Amendments to the Claims

Listing of Claims:

1-27 Cancelled

28. (Currently Amended) An ostegoenic implant comprising an implant made of titanium metal, having a metal surface covered with a polypeptide at ~~a rate of~~ 5 to 70% coverage, based on a maximum coverage of the metal surface with a monomolecular layer, wherein the polypeptide is selected from the group consisting of one or more of transforming growth factors (TGF) and systemic hormones.

29. (Previously Presented) The implant of claim 28, having an at least partially roughened surface, which surface is at least partially covered, in the hydroxylated state, with a polypeptide selected from the group consisting of one or more of transforming growth factors (TGF) and systemic hormones.

30. (Previously Presented) The implant of claim 29, having a macro-roughness, and a micro-roughness superposed on the macro-roughness, said micro-roughness being produced by chemical etching of the surface and/or by means of electrolytic treatment.

31. (Previously Presented) The implant of claim 28, wherein the transforming growth factor (TGF) is selected from the group consisting of one or more of (i) transforming growth factors beta (TGF-ß) and (ii) bone morphogenic proteins (BMP).

32. (Previously Presented) The implant of claim 31, wherein the transforming growth factor beta (TGF- ß) is selected from the group consisting of one or more of TGF-ß1, TGF-ß2, TGF- ß3, TGF- ß4, TGF- ß5.

33. (Previously Presented) The implant of claim 31, wherein the TGF is a bone morphogenic protein (BMP) selected from the group consisting of one or more of BMP-2 (BMP-2a), BMP-3, BMP-4 (BMP-2b), BMP-5, BMP-6, BMP-7 (OP-1), BMP-8 (OP-2), BMP-9, BMP-10, BMP-11, BMP-12, and BMP-13.

34. (Previously Presented) The implant of claim 31, wherein the TGF is a bone morphogenic protein (BMP) selected from the group consisting of one or more of osteonectin, bone sialoprotein (BSP), osteopontin, osteocalcin, osteostatin, osteogenin, and osteo growth peptides (OGP).

35. (Previously Presented) The implant of 34, wherein the osteocalcin has a formula): H-Gly-Ala-Pro-Val-Pro-Tyr-Pro-Asp-Pro-Leu-Glu-Pro-Arg-OH.

36. (Previously Presented) The implant of claim 34, wherein the osteocalcin has a formula: H-Gly-Phe-Gln-Glu-Ala-Tyr-Arg-Arg-Phe-Tyr-Gly-Pro-Val-OH.

37. (Previously Presented) The implant of claim 34, wherein the osteocalcin has a formula: H-Tyr-Gln-Glu-Ala-Phe-Arg-Arg-Phe-Gly-Pro-Val-OH.

38. (Previously Presented) The implant of claim 34, wherein the osteocalcin has a formula: H-Tyr-Leu-Tyr-Gln-Trp-Leu-Gly-Ala-Pro-Val-Pro-Tyr-Pro-Asp-Pro-Leu-Gla-Pro-Arg-Arg-Gla-Val-Cys-Gla-Leu-Asn-Pro-Asp-Cys-Asp-Glu-Leu-Ala-Asp-His-Ile-Gly-Phe-Gln-Gln-Ala-Tyr-Arg-Arg-Phe-Tyr-Gly-Pro-Val-OH.

39. (Previously Presented) The implant of claim 34, wherein the osteogenic growth peptide (OGP) has a formula: H-Ala-Leu-Lys-Arg-Gln-Gly-Arg-Thr-Leu-Tyr-Gly-Phe-Gly-Gly-OH.

40. (Previously Presented) The implant of claim 28, wherein the polypeptide contains at least one residue of an amino acid with a heterocyclic ring.

41. (Currently Amended) The implant of claim 28, wherein the polypeptide comprises systemic hormones comprisesing one or more of 1,25-$(OH)_2D_3$, 1α,1,25$(OH)_2D_3$ and 24,25-$(OH)_2D_3$.

42. (Previously Presented) The implant of claim 28, wherein the implant, or at least its covered surface, is enclosed in a gas-tight and liquid-tight envelope which is filled with a gas which is inert for the implant surface and/or at least partially with pure water.

43. (Previously Presented) The implant of claim 42, wherein the pure water in the envelope contains a polypeptide comprising one or more of a transforming growth factor (TGF) and a systemic hormone.

44. (Previously Presented) The implant of claim 43, wherein the pure water contains the polypeptide in a concentration in the range from 0.01 µmol/l to 100 µmol/l.

45. (Previously Presented) The implant of claim 44, wherein the pure water contains inorganic salts in the form of monovalent alkali metal cations with anions and/or divalent cations in the form of water-soluble inorganic salts.

46. (Previously Presented) The implant of claim 42, wherein the pure water contains inorganic salts in a total amount of said cations and anions in each case in a range from 50 mEq/l to 250 mEq/l.

47. (Previously Presented) A process for producing an implant of claim 28, wherein the implant surface is mechanically roughened by being shotpeened or sandblasted and/or roughened by use of plasma technology, wherein subsequently

(i) the surface which has been roughened mechanically or by plasma technology is treated with an electrolytic or chemical etching process until a hydroxylated surface has been produced; and

(ii) the surface is at least partially covered with a polypeptide comprising one or more of an osteogenic growth peptide (OGP), a transforming

growth factor (TGF) and an osteocalcin.

48. (Previously Presented) The process of claim 47, wherein the polypeptide is brought into contact with the hydroxylated metal surface in aqueous solution at a concentration of at least 10 µmol/l (micromole per liter).

49. (Previously Presented) The implant produced by the process of claim 47.

50. (Previously Presented) The implant of claim 28, wherein it is a dental implant.

51. (Currently Amended) A process for introducing an osteogenic dental implant having a metal surface and of at least partially cylindrical shape into a cavity of a jaw bone, ~~wherein~~ the process including the step of applying to a bone surface, in the area of the cavity, and/or to the metal surface of the implant ~~is brought at least partially into contact with~~ a polypeptide selected from the group consisting of one or more of transforming growth factors (TGF) and systemic hormones, wherein the metal surface is covered with the polypeptide at ~~a rate~~ of 5 to 70 coverage, based on a maximum coverage of the metal surface with a monomolecular layer.

52. (Previously Presented) The implant of claim 28, having a surface covered with a polypeptide at a rate of 8% to 20%.

53. (Previously Presented) The implant of implant 30, having a micro-roughness produced by etching with an inorganic acid or a mixture of inorganic acids.

54. (Previously Presented) The implant of claim 30, having a micro-roughness produced by chemical etching with hydrofluoric acid, hydrochloric acid, sulfuric acid, nitric acid or a mixture of such acids.

55. (Previously Presented) The implant of claim 30, having a micro-roughness produced by treating the surface with hydrochloric acid, hydrogen peroxide and water in a ratio of about 1:1:5 by weight.

56. (Previously Presented) The implant of claim 40, wherein the polypeptide contains at least one residue of proline (Pro), hydroxyproline (Hypro), tryptophan (Try) or histidine (His).

57. (Previously Presented) The implant of claim 42, wherein the gas is nitrogen, oxygen or a noble gas.

58. (Previously Presented) The implant of claim 42, wherein the implant or at least the covered surface is enclosed at least partially with pure water.

59. (Previously Presented) The implant of claim 42, wherein the pure water contains additives.

60. (Previously Presented) The implant of claim 43, wherein the pure water contains the same polypeptide with which the implant surface is covered.

61. (Previously Presented) The implant of claim 44, wherein the pure water contains the polypeptide in a concentration in the range from 0.1 µmol/l to 10 µmol/l.

62. (Previously Presented) The implant of claim 44, wherein the pure water contains the polypeptide in a concentration in the range of about 1 µmol/l.

63. (Previously Presented) The implant of claim 45, wherein the pure water contains Na+ or K+, or a mixture of Na+ and K+, as the cations in monovalent alkali metal salts.

64. (Previously Presented) The implant of claim 45, wherein the pure water contains Mg^{+2}, Ca^{+2}, Sr^{+2} and/or Mn^{+2} in the form of the chlorides, chlorates, nitrates, phosphates and/or phosphonates.

65. (Previously Presented) The implant of claim 46, wherein the range is from 100 mEq/l to 200 mEq/l.

66. (Previously Presented) The implant of claim 46, wherein the amount is about 150 mEq/l.

67. (Previously Presented) The implant of claim 47, wherein the implant surface is treated with an inorganic acid or a mixture of inorganic acids.

68. (Previously Presented) The implant of claim 47, wherein the implant surface is treated with hydrofluoric acid, hydrochloric acid, sulfuric acid, nitric acid, or a mixture of such acids.

69. (Previously Presented) The implant of claim 47, wherein the implant surface is treated with hydrogen chloride, hydrogen peroxide and water in a ratio of about 1:1:5 by weight.

70. (Currently Amended) The process of claim 51, wherein the metal surface is covered with the polypeptide at ~~a rate of~~ 8% to 20% coverage.